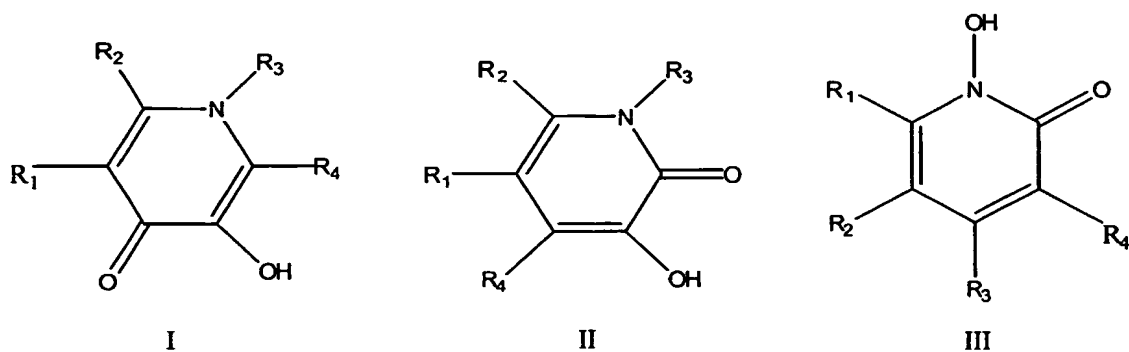


WHAT IS CLAIMED:

1. A method of inhibiting 4-hydroxyphenylpyruvate dioxygenase in a living system comprising:

- 5 administering to the living system an effective amount of a compound of formulas I or II or III or derivatives thereof as follows:

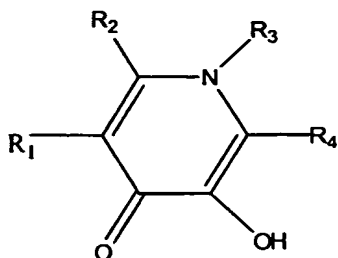


- 10 R^1 , R^2 , R^3 , and R^4 each individually represent a hydrogen, an alkyl, alkenyl, or alkoxy group containing 1 to about 8 carbon atoms, an aryl, aralkyl, or cycloalkyl group containing about 5 to 12 carbon atoms, or a carboalkoxy or carbamyl group containing up to 8 carbon atoms, or a peptide or peptidomimetic moiety containing 10 to about 30 carbon atoms.

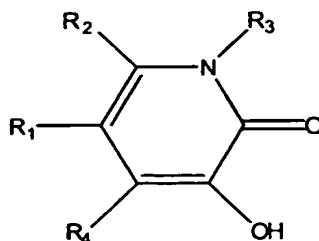
- 15 2. A method according to claim 1, wherein the compound is deferiprone (DMHP).

- 20 3. A method of treating a patient with tyrosinemia comprising:
administering to the patient an effective amount of a compound of
formulas I or II or III or derivatives thereof as follows:

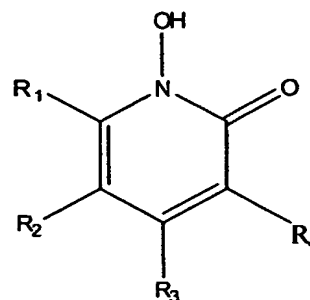
- 36 -



I



II



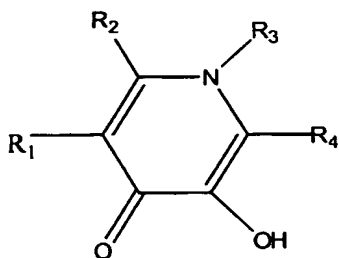
III

R^1 , R^2 , R^3 , and R^4 each individually represent a hydrogen, an alkyl, alkenyl, or alkoxy group containing 1 to about 8 carbon atoms, an aryl, aralkyl, or cycloalkyl group containing about 5 to 12 carbon atoms, or a carboalkoxy or carbamyl group containing up to 8 carbon atoms, or a peptide or peptidomimetic moiety containing 10 to about 30 carbon atoms.

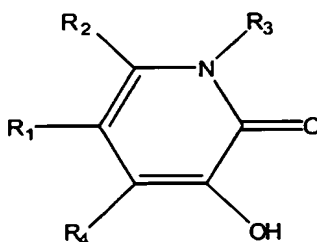
4. A method according to claim 3, wherein the compound is deferiprone (DMHP).

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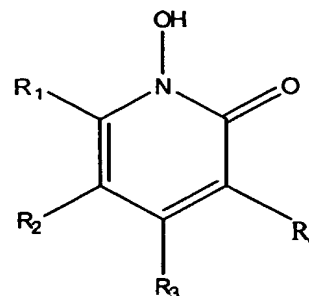
5. A method of regulating plant growth comprising:
administering to a plant an effective amount of a compound of formulas I or II or III or derivatives thereof as follows:



I



II



III

15

R^1 , R^2 , R^3 , and R^4 each individually represent a hydrogen, an alkyl, alkenyl, or alkoxy group containing 1 to about 8 carbon atoms, an aryl, aralkyl, or cycloalkyl group containing about 5 to 12 carbon atoms, or a carboalkoxy or carbamyl group containing up to 8 carbon atoms, or a peptide or peptidomimetic moiety containing 10 to about 30 carbon atoms.

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6. A method according to claim 5, wherein the compound is deferiprone (DMHP).